

**In the claims:**

Please amend claims 1, 3, 7-8, 12, and 15-16 without prejudice to read as follows:

1. (Amended) A hydrogen purifying apparatus for oxidizing and removing carbon monoxide in a reformed gas containing carbon monoxide in addition to a main component of hydrogen gas, comprising a reaction segment having a catalyst layer for oxidizing carbon monoxide, a reformed gas supplying segment for supplying said reformed gas to said reaction segment via a reformed gas supply pathway, an oxidant gas supplying segment for supplying an oxidant gas on the path of said reformed gas supply pathway, means for cooling said catalyst layer at an upstream side, and means for heating said catalyst layer at a downstream side.

3. (Amended) The hydrogen purifying apparatus in accordance with claim 2, wherein said upstream side of said catalyst layer is formed of different catalyst materials than that of said downstream side, and the catalyst constituting said downstream side exerts the activity at lower temperature than the catalyst constituting said upstream side.

7. (Amended) The hydrogen purifying apparatus in accordance with claim 2, wherein a flow pathway of said reformed gas is formed at a position adjacent to said catalyst layer via a partition so as to heat said downstream side of said catalyst layer by a contact with said reformed gas before the passage through said cooling means.

8. (Amended) The hydrogen purifying apparatus in accordance with claim 7, wherein said reformed gas flows in a first direction prior to passing through said cooling means, and passes through said catalyst layer in a second direction, wherein the first direction and second direction are opposing.

12. (Amended) The hydrogen purifying apparatus in accordance with claim 1, wherein a branched pathway is formed which bifurcates downstream from a connection between said reformed gas supply pathway and said oxidant gas supply pathway, thereby forming a catalyst layer heating branch and a catalyst layer cooling branch, the catalyst layer heating branch being connected to said reaction segment at the middle point of said catalyst layer, the catalyst layer cooling branch being connected to said reaction segment at an upstream point of the catalyst layer.